## AMENDMENTS TO THE CLAIMS

1. (Previously Presented) A method of inducing an insulin sensitizing or insulin mimetic effect in a tissue of a patient <u>having hyperinsulinemia</u> in need thereof, the method comprising administering to the patient 4-hydroxyisoleucine of formula

- (Previously Presented) The method of claim 1, characterised in that said
  4-hydroxyisoleucine and/or lactonic form thereof exercises an insulin mimetic and/or insulinsensitizing effect at the level of a peripheral target tissue of insulin.
- 3. (Previously Presented) The method of claim 1, characterised in that said 4-hydroxyisoleucine and/or lactonic form thereof reduces phosphatase activity associated with the signaling route of the insulin receptor, and/or stimulates PI 3-kinase activity on IRS-1 and/or IRS-2.
  - 4. (Canceled).
- 5. (Previously Presented) The method of claim 1, characterised in that the 4-hydroxyisoleucine is presented in the form of its 2S, 3R, 4S isomer or the corresponding lactone.

## 6-12. (Canceled).

- 13. (Previously Presented) The method of claim 1, wherein administration of the 4-hydroxyisoleucine and/or lactonic form thereof reduces the need of the patient for exogenic insulin.
- 14. (Currently Amended) A pharmaceutical composition or a kit for the treatment of hyperinsulinemia Type II diabetes, comprising both insulin and 4-hydroxyisoleucine of formula

and/or the lactonic form thereof.

15. (Currently Amended) A method of inducing an insulin sensitizing effect in a tissue of a patient <u>having hyperinsulinema</u> in need thereof, wherein the patient has Type II diabetes, the method comprising administering to the patient 4-hydroxyisoleucine of formula

16. (Currently Amended) A method of inducing an insulin mimetic effect in a tissue of a patient <u>having hyperinsulinemia</u> in need thereof, the method comprising administering to the patient 4-hydroxyisoleucine of formula

- 17. (Previously Presented) The method of claim 1, further comprising administering insulin to the patient.
- 18. (Previously Presented) The method of claim 1, wherein the 4-hydroxyisoleucine and/or lactonic form thereof is orally administered to the patient.
- 19. (Previously Presented) The method of claim 1, wherein the 4-hydroxyisoleucine and/or lactonic form thereof is administered to the patient two times per day.
- 20. (Previously Presented) The method of claim 1, wherein the 4-hydroxyisoleucine and/or lactonic form thereof is administered to the patient three times per day.
- 21. (Previously Presented) The method of claim 1, wherein the 4-hydroxyisoleucine and/or lactonic form thereof is administered in the form of a capsule.

- 22. (Previously Presented) The method of claim 1, wherein the 4-hydroxyisoleucine and/or lactonic form thereof is administered in the form of a tablet.
  - 23-44. (Canceled).
- 45. (Currently Amended) A method to combat insulin resistance in a patient <u>having</u> <u>hyperinsulinemia</u>, comprising administering to the patient the (2S, 3R, 4S) isomer of 4-hydroxyisoleucine of formula

$$H_3C$$
 —  $CH$  —  $CH$  —  $CH$  —  $COOH$   $OH$   $CH_3$   $NH_2$ 

and/or the lactonic form thereof.

46. (Previously Presented) A method to combat hyperinsulinemia in a patient in need thereof, comprising administering to the patient the (2S, 3R, 4S) isomer of 4-hydroxyisoleucine of formula